Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Before computing the patent application fee, please cancel claims 1-28, and add the following new claims 29-61 to the application.

Listing of Claims:

1   29. **(new)** A method of implementing a user interface comprising:

2   storing one or more description documents defining a plurality of

3   types of at least one user interface and comprising definitions of elements

4   of the at least one user interface;

5   storing a plurality of objects each comprising a renderer for

6   rendering a different one of the elements;

7   forming a first renderer of a selected user interface of a selected

8   any one type of the plurality of the types by loading into an interface-

9   implementation engine (interactor) objects of the plurality of objects that

10 correspond to the elements of at least one description document of the

11 stored description documents that defines the selected user interface of

12 the selected any one type;

13   rendering the selected user interface of the selected any one type

14 by executing the first renderer;

15   forming a second renderer of a selected user interface of a selected

16 any other type of the plurality of the types which is different from said any

17 one type by loading into same said interactor objects of the plurality of

18 objects that correspond to the elements of at least one description

19 document of the stored description documents that defines the selected

20 user interface of the selected any other type; and

21   rendering the selected user interface of the selected any other type

22 by executing the second renderer.

1   30. **(new)** The method of claim 29 wherein:

2   the one type of interface is a telephony user interface (TUI); and

3   the other type of interface is a graphical user interface (GUI).

1   31. **(new)** The method of claim 29 wherein:

2   each step of forming comprises

3   reflecting the definitions of the elements from the at least one

4 description document that defines the selected user interface of the

5 selected type into an object model to create an instance of the object

6 model that defines the selected user interface of the selected type; and

7   each step of rendering comprises

8   executing the objects that correspond to the reflected element

9 definitions.

1   32. **(new)** The method of claim 29 wherein:

2   each step of rendering comprises

3   passing each element definition from the at least one description

4 document that defines the selected user interface of the selected type to

5 the corresponding object and executing said object to render the element.

1   33. **(new)** The method of claim 29 wherein:

2   storing one or more description documents comprises

3   storing one or more description documents defining the at least one

4 user interface and comprising one or more definition elements, and

5   storing one or more description documents defining interactions of

6 the at least one user interface with at least one application and comprising

7 one or more interaction elements;

8   storing a plurality of objects comprises

9   storing a plurality of layout objects each comprising a renderer for

10 rendering a different one of the definition elements, and

11   storing a plurality of connector objects each comprising a renderer

12   for rendering a different one of the interaction elements;

13   each step of forming a renderer comprises

14   forming a layout engine for the selected user interface from layout

15   objects that correspond to the definition elements of at least one

16   description document that defines the selected user interface, and

17   forming a connector engine for the selected user interface from

18   layout objects that correspond to the interaction elements of at least one

19   description document that defines interaction of the selected user interface

20   with a selected application; and

21   each step of rendering the selected user interface comprises

22   rendering the selected interface to the selected application by

23   executing the layout engine and the connector engine.

1   34. **(new)** The method of claim 33 wherein:

2   rendering the selected interface to the selected application by

3   executing the layout engine and the connector engine comprises

4   passing each element of the description documents that define the

5   selected user interface and its interaction with the selected application to

6   the corresponding object and executing said object to render said

7   element.

1   35. **(new)** An apparatus that effects the method of one of the

2   claims 29-34.

1   36. **(new)** A computer-readable medium containing instructions

2   which, when executed in a computer, cause the computer to perform the

3   method of one of the claims 29-34.

1   37. **(new)** An apparatus for implementing a user interface,

2   comprising:

3   storage for storing (a) one or more description documents defining

4   a plurality of types of at least one user interface and comprising definitions

5   of elements of at least one user interface, and (b) a plurality of objects

6   each comprising a renderer for rendering a different one of the elements;

7   and

8   a processor for connecting to the storage and (c) forming a first

9   renderer of a selected user interface of a selected any one type of the

10   plurality of the types by loading into an interface implementation engine

11   (interactor) objects of the plurality of objects that correspond to the

12   elements of at least one description document of the stored description

13   documents that defines the selected user interface of the selected any one

14   type, (d) rendering the selected user interface of the selected any one type

15   by executing the renderer, (e) forming a second renderer of a selected

16   user interface of a selected any other type of the plurality of the types

17   which is different from said any one type by loading into same said

18   interactor objects of the plurality of objects that correspond to the

19   elements of at least one description document of the stored description

20   documents that defines the selected user interface of the selected any

21   other type, and (f) rendering the selected user interface of the selected

22   any other type by executing the second renderer.

1   38. **(new)** The apparatus of claim 37 wherein:

2   the processor renders the selected user interface of the selected

3   type by passing each element definition from the at least one description

4   document that defines the selected user interface of the selected type to

5   the corresponding object and executes said object to render the element.

1   39. **(new)** The apparatus of claim 37 wherein:

2   the one type of interface is a telephony user interface (TUI); and

3   the other type of interface is a graphical user interface (GUI).

1   40. **(new)** The apparatus of claim 37 wherein:

2   the processor forms each renderer by reflecting the definitions of

3 the elements from the at least one description document that defines the

4 selected user interface of the selected type into an object model to create

5 an instance of the object model that defines the selected user interface of

6 the selected type; and

7   the processor renders each selected user interface by executing

8 the objects that correspond to the reflected element definitions.

1   41. **(new)** The apparatus of claim 37 wherein:

2   the storage stores (a)(i) one or more description documents

3 defining at least one user interface and comprising one or more definition

4 elements, (a)(ii) one or more description documents defining interactions

5 of the at least one user interface with at least one application and

6 comprising one or more interaction elements, (b)(i) a plurality of layout

7 objects each comprising a renderer for rendering a different one of the

8 definition elements, and (b)(ii) a plurality of connector objects each

9 comprising a renderer for rendering a different one of the interaction

10 elements; and

11   the processor forms (c)(i) a layout engine for the selected user

12 interface of the selected type from layout objects that correspond to the

13 definition elements of at least one description document that defines the

14 selected user interface of the selected type and (c)(ii) a connector engine

15 for the selected user interface of the selected type from layout objects that

16 correspond to the interaction elements of at least one description

17 document that defines interaction of the selected user interface of the

18 selected type with a selected application, and (d) renders the selected

19 interface of the selected type to the selected application by executing the

20 layout engine and the connector engine.

1   42. **(new)** The apparatus of claim 41 wherein:

2   the processor renders the selected user interface of the selected

3   type to the selected application by passing each element of the description

4   documents that define the selected user interface of the selected type and

5   its interactions with the selected application to the corresponding object

6   and executing said object to render said element.

1   43. **(new)** An apparatus for implementing a user interface

2   comprising:

3   means for storing one or more description documents defining a

4   plurality of types of at least one user interface and comprising definitions

5   of elements of the at least one user interface;

6   means for storing a plurality of objects each comprising a renderer

7   for rendering a different one of the elements;

8   means for forming a first renderer of a selected user interface of a

9   selected any one type of the plurality of the types by loading into an

10   interface-implementation engine (interactor) objects of the plurality of

11   objects that correspond to the elements of at least one description

12   document of the stored description documents that defines the selected

13   user interface of the selected any one type;

14   means for rendering the selected user interface of the selected any

15   one type by executing the first renderer;

16   means for forming a second renderer of a selected user interface of

17   a selected any other type of the plurality of the types which is different

18   from said any one type by loading into same said interactor objects of the

19   plurality of objects that correspond to the elements of at least one

20   description document of the stored description documents that defines the

21   selected user interface of the selected any other type, and

22   means for rendering the selected user interface of the selected any

23   other type by executing the second renderer.

1   44. **(new)** The apparatus of claim 43 wherein:

2   the one type of interface is a telephony user interface (TUI); and

3   the other type of interface is a graphical user interface (GUI).

1   45. **(new)** The apparatus of claim 43 wherein:

2   each means for forming comprises means for reflecting the

3   definitions of the elements from the at least one description document that

4   defines the selected user interface of the selected type into an object

5   model to create an instance of the object model that defines the selected

6   user interface of the selected type; and

7   each means for rendering comprises means for executing the

8   objects that correspond to the reflected element definitions.

1   46. **(new)** The apparatus of claim 43 wherein:

2   means for rendering comprise

3   means for passing each element definition from the at least one

4   description document that defines the selected user interface to the

5   corresponding object; and

6   means for executing said object to render the element.

1   47. **(new)** A method comprising:

2   storing description documents that define a user interface,

3   comprised of interface elements, in terms of an object model, some of the

4   description documents defining a first type of the user interface and others

5   of the description documents defining a second type of the user interface;

6   storing renderers each for rendering a different one of the interface

7   elements, some of the renderers for rendering the first type of the user

8   interface and others of the renderers for rendering the second type of the

9   user interface;

10   parsing the description documents of a selected either type of the

11   user interface by an interface implementation engine (interactor) to identify

12   the elements of the selected type of user interface;

13   reflecting the identified elements into the object model by the

14   interactor to generate an instance of the object model that represents the

15   selected type of the user interface;

16   downloading the renderers corresponding to the reflected elements

17   into the interactor to create a renderer for the selected type of the user

18   interface; and

19   executing the renderer by the interactor to create the selected type

20   of the user interface.

1   48. (new) The method of claim 47 wherein:

2   the first type of the interface is a telephony user interface (TUI); and

3   the second type of the interface is a graphical user interface (GUI).

1   49. (new) The method of claim 47 wherein:

2   the description documents are expressed in a mark-up language.

1   50. (new) The method of claim 47 wherein:

2   the description documents define the object model.

1   51. (new) The method of claim 47 wherein:

2   each renderer is an object whose execution renders the

3   corresponding interface element.

1   52. (new) The method of claim 51 wherein:

2   executing the renderer comprises

3   invoking execution of each loaded renderer with the corresponding

4   reflected element of the object model to render the corresponding

5   interface element.

1   53. (new) The method of claim 47 wherein:

2   each renderer is for rendering the different interface element in a

3   different interface of a different type for a different device and a different

4   application.

1   54. (new) An arrangement comprising:

2   description documents that define a user interface, comprised of

3   interface elements, in the terms of an object model, some of the

4   description documents defining a first type of the user interface and others

5   of the description documents defining a second type of the user interface;

6   renderers each for rendering a different one of the interface

7   elements, some of the renderers for rendering the first type of the user

8   interface and others of the renderers for rendering the second type of the

9   user interface; and

10   an interface implementation engine (interactor) for parsing the

11   description documents of a selected either type of the user interface to

12   identify the elements of the selected type of user interface, for reflecting

13   the identified elements into the object model to generate an instance of

14   the object model that represents the selected type of the user interface, for

15   loading the renderers corresponding to the reflected elements into the

16   interactor to create a renderer of the selected type of the user interface,

17   and for executing the renderer to create the selected type of the user

18   interface.

1   55. (new) The arrangement of claim 54 wherein:

2   the first type of the interface is a telephony user interface (TUI); and

3   the second type of the interface is a graphical user interface (GUI).

1   56. (new) The arrangement of claim 54 wherein:

2   the description documents are expressed in a mark-up language.

1   57. (new) The arrangement of claim 54 wherein:

2   the description documents define the object model.

1   58. (new) The arrangement of claim 54 wherein:

2   each renderer is an object whose execution renders the

3   corresponding interface element.

1   59. (new) The arrangement of claim 58 wherein:

2   the interactor executes the renderer by invoking execution of each

3   loaded renderer with the corresponding reflected element of the object

4   model to render the corresponding interface element.

1   60. (new) The arrangement of claim 54 wherein:

2   each renderer is for rendering the different interface element in a

3   different interface of a different type for a different device and a different

4   application.

1   61. (new) The arrangement of claim 54 further comprising:

2   storage for the description documents;

3   storage for the renderers; and

4   a processor for forming the interactor.